

CLAIMS

1. A method of manufacturing a pleated filter assembly comprised of a filtration media and a plastic member, said method comprising:

- a) providing a first mold half having a parting line and a plurality of troughs;
- b) providing a second mold half having a parting line mating with the first mold half parting line and a plurality of troughs adapted to interspace with the troughs of the first mold half;
- c) inserting a sheet of filtration media between troughs of the first mold half and troughs of the second mold half;
- d) mating the first mold half and second mold half along the parting lines to pleat said filtration media between troughs of the first mold half and troughs of the second mold half, and to form a cavity between said first mold half and second mold half into which a portion of the filtration media extends; and
- e) injecting plastic within said cavity to thereby capture the portion of the filtration media in the plastic and form said plastic member.

2. The method of claim 1 wherein the step of inserting the filtration media between the troughs of the first and second mold halves occurs before the step of mating the first and second mold halves.

3. The method of claim 2 wherein said cavity between the first mold half and the second mold half includes a rectangular flange portion located outwardly of said first mold half troughs, and said rectangular flange portion defining at least in part said plastic member.

4. The method of claim 3 wherein said plurality of first mold half troughs are generally parallel.

5. The method of claim 2 wherein said second mold half further comprises at least one biasing member, and wherein said biasing member is biased when the first mold half and second mold half are mated to form a cavity therebetween.

6. The method of claim 5 wherein said plurality of first mold half troughs are generally parallel.

7. The method of claim 1 wherein said cavity between the first mold half and the second mold half includes a rectangular flange portion located outwardly of said first mold half troughs, and said rectangular flange portion defining at least in part said plastic member.

8. The method of claim 7 wherein said plurality of first mold half troughs are generally parallel.

9. The method of claim 1 wherein said second mold half further comprises at least one biasing member, and wherein said biasing member is biased when the first mold half and second mold half are mated to form a cavity therebetween.

10. The method of claim 9 wherein said plurality of first mold half troughs are generally parallel.

11. The method of claim 9 wherein said cavity between the first mold half and the second mold half includes a rectangular flange portion located outwardly of said first mold half troughs, and said rectangular flange portion defining at least in part said plastic member

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12. The method of claim 9 wherein the step of inserting the filtration media between the troughs of the first and second mold halves occurs before the step of mating the first and second mold halves

13. The method of claim 1 wherein said plurality of first mold half troughs are generally parallel.

14. The method of claim 13 wherein the step of inserting the filtration media between the troughs of the first and second mold halves occurs before the step of mating the first and second mold halves.

15. A method of manufacturing a pleated filter assembly wherein said filter assembly comprises filtration media and a plastic member, said method comprising:

- a) providing a first mold half having an axis of relative translation, a plurality of teeth, and a cavity for a molded plastic part adjacent to the teeth;
- b) providing a second mold half having an axis of relative translation, and a plurality of teeth adapted to mesh with the teeth of the first mold half;
- c) inserting a sheet of filtration media between the first mold half teeth and the second mold half teeth and extending at least a portion of the filtration media into the first mold half cavity;
- d) mating the first mold half and second mold half by way of their relative translation axes to pleat said filtration media between the teeth of the first mold and second mold halves, and to form a molded part cavity with a portion of the filtration media in the cavity; and

e) injecting plastic within said cavity to thereby include within the plastic a portion of the filtration media, and form said plastic member.

16. The method of claim 15 wherein the axes of relative translation for the first and second mold halves is linear.

17. The method of claim 16 wherein the step of inserting the filtration media between the teeth of the first and second mold halves occurs before the step of injecting plastic within said cavity.

18. The method of claim 17 wherein said molded part cavity between the first mold half and the second mold half includes a rectangular flange portion located outwardly of said first mold half teeth, and said rectangular flange portion defining at least in part said molded part.

19. The method of claim 18 wherein said second mold half further comprises at least one biasing member, and wherein said biasing member is biased when the first mold half and second mold half are mated to form a cavity therebetween.

20. The method of claim 18 wherein said first mold half is stationary and said second mold half translates relative to the first mold half.

21. The method of claim 18 wherein the second mold half is stationary and the first mold half translates relative to the second mold half.

22. The method of claim 18 wherein the second mold half and the first mold half translate.

23. The method of claim 17 wherein said first mold half is stationary and said second mold half translates relative to the first mold half.

24. The method of claim 17 wherein the second mold half is stationary and the first mold half translates relative to the second mold half.

25. The method of claim 17 wherein the second mold half and the first mold half translate.

26. The method of claim 16 wherein said first mold half is stationary and said second mold half translates relative to the first mold half.

27. The method of claim 16 wherein the second mold half is stationary and the first mold half translates relative to the second mold half.

28. The method of claim 16 wherein the second mold half and the first mold half translate.

29. The method of claim 15 wherein the axes of relative translation for the first and second mold halves are rotational.

30. The method of claim 29 wherein said second mold half further comprises at least one biasing member, and wherein said biasing member is biased when the first mold half and second mold half are mated to form a cavity therebetween.

31. The method of claim 30 wherein said molded part cavity between the first mold half and the second mold half includes a rectangular flange portion located outwardly of said first mold half teeth, and said rectangular flange portion defining at least in part said molded part.

32. The method of claim 30 wherein the step of inserting the filtration media between the teeth of the first and second mold halves occurs before the step of injecting plastic within said cavity.

33. The method of claim 32 wherein said first mold half is stationary and said second mold half translates relative to the first mold half.

34. The method of claim 32 wherein the second mold half is stationary and the first mold half translates relative to the second mold half.

35. The method of claim 32 wherein the second mold half and the first mold half translate.

36. The method of claim 30 wherein said first mold half is stationary and said second mold half translates relative to the first mold half.

37. The method of claim 30 wherein the second mold half is stationary and the first mold half translates relative to the second mold half.

38. The method of claim 30 wherein the second mold half and the first mold half translate.

39. The method of claim 29 wherein said first mold half is stationary and said second mold half translates relative to the first mold half.

40. The method of claim 29 wherein the second mold half is stationary and the first mold half translates relative to the second mold half.

41. The method of claim 29 wherein the second mold half and the first mold half translate.

42. The method of claim 15 wherein the step of inserting the filtration media between the teeth of the first and second mold halves occurs before the step of injecting plastic within said cavity.

43. The method of claim 42 wherein said second mold half further comprises at least one biasing member, and wherein said biasing member is biased

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when the first mold half and second mold half are mated to form a cavity
therebetween.

44. The method of claim 43 wherein said molded part cavity between the
first mold half and the second mold half includes a rectangular flange portion
located outwardly of said first mold half teeth, and said rectangular flange portion
defining at least in part said molded part.

45. The method of claim 44 wherein said first mold half is stationary and
said second mold half translates relative to the first mold half.

46. The method of claim 44 wherein the second mold half is stationary and
the first mold half translates relative to the second mold half.

47. The method of claim 44 wherein the second mold half and the first
mold half translate.

48. The method of claim 42 wherein said molded part cavity between the
first mold half and the second mold half includes a rectangular flange portion
located outwardly of said first mold half teeth, and said rectangular flange portion
defining at least in part said molded part.

49. The method of claim 48 wherein said first mold half is stationary and
said second mold half translates relative to the first mold half.

50. The method of claim 48 wherein the second mold half is stationary and
the first mold half translates relative to the second mold half.

51. The method of claim 48 wherein the second mold half and the first
mold half translate.

52. The method of claim 15 wherein said second mold half further comprises at least one biasing member, and wherein said biasing member is biased when the first mold half and second mold half are mated to form a cavity therebetween.

5 53. The method of claim 52 wherein said first mold half is stationary and said second mold half translates relative to the first mold half.

54. The method of claim 52 wherein the second mold half is stationary and the first mold half translates relative to the second mold half.

55. The method of claim 52 wherein the second mold half and the first mold half translate.

56. The method of claim 52 wherein said molded part cavity between the first mold half and the second mold half includes a rectangular flange portion located outwardly of said first mold half teeth, and said rectangular flange portion defining at least in part said molded part.

57. The method of claim 56 wherein said first mold half is stationary and said second mold half translates relative to the first mold half.

58. The method of claim 56 wherein the second mold half is stationary and the first mold half translates relative to the second mold half.

59. The method of claim 56 wherein the second mold half and the first mold half translate.

60. The method of claim 52 wherein said molded part cavity between the first mold half and the second mold half is continuous about the first mold half teeth, thereby establishing a gasket in said molded part.

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61. The method of claim 60 wherein said molded part cavity between the first mold half and the second mold half includes a rectangular flange portion located outwardly of said first mold half teeth, and said rectangular flange portion defining at least in part said molded part.

62. The method of claim 60 wherein the step of inserting the filtration media between the teeth of the first and second mold halves occurs before the step of injecting plastic within said cavity.

63. The method of claim 52 wherein said molded part cavity between the first mold half and the second mold half is adapted for molding plastic ribs onto said filtration media.

64. The method of claim 63 wherein the step of inserting the filtration media between the teeth of the first and second mold halves occurs before the step of injecting plastic within said cavity.

65. The method of claim 64 wherein said molded part cavity between the first mold half and the second mold half is continuous about the first mold half teeth, thereby establishing a gasket in said molded part.

66. The method of claim 64 wherein said molded part cavity between the first mold half and the second mold half includes a rectangular flange portion located outwardly of said first mold half teeth, and said rectangular flange portion defining at least in part said molded part.

67. The method of claim 63 wherein said molded part cavity between the first mold half and the second mold half includes a rectangular flange portion

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located outwardly of said first mold half teeth, and said rectangular flange portion defining at least in part said molded part.

68. The method of claim 67 wherein the step of inserting the filtration media between the teeth of the first and second mold halves occurs before the step
5 of injecting plastic within said cavity.

69. The method of claim 68 wherein said molded part cavity between the first mold half and the second mold half is continuous about the first mold half teeth, thereby establishing a gasket in said molded part.

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